Claims

1. A fuel injection apparatus (1) having an injection valve (9), having a line (5) that supplies highly pressurized fuel to the injection valve (9) during operation, and having a control valve (41) that controls the pressure in a control chamber (43) of the injection valve connected to the above-mentioned line (5) and includes a movable valve member (51) that an actuator (31) is able to actuate via a hydraulic coupler (38), which has two pistons (39, 40) that cooperate with a coupler volume of the coupler, the seat (53) of the movable valve member (51) having an internal cross-sectional area f3 equipped with means for filling the coupler volume with pressurized fuel via guidance gaps (65, 67) of the pistons (39, 40),
characterized in that the pistons (39, 40) are guided one inside the other in parallel fashion; at the ends of the pistons (39, 40) oriented toward the actuator (31), there is a booster chamber (72); a filling chamber (71-2) is provided inside the outer piston (39) and is connected to the above-mentioned line (5); one of the pistons (39) with a cross-sectional area f4 is mechanically coupled to the actuator (31) by means of a rod (61) with a cross-sectional area f5; the other piston (40), which has a piston area f2, actuates the control valve (41) by means of rod (63) that has a cross-sectional area f1 smaller than f2; and the direction of the opening movement of the movable valve member (51) coincides with the direction of fuel flowing out of the control chamber (43) so that the control valve is at least partially force-balanced due to the pressure acting on the additional piston (40) in the booster chamber (72).

2. A fuel injection apparatus (1) according to claim 1, characterized in that at least in a region of the rod (61) connecting the actuator (31) to the hydraulic coupler, spaced apart from the coupler chamber situated the closest to the actuator (31), there is an additional filling chamber 90 that is connected to the line 5 and communicates with the coupler via a guidance gap (94) of the rod (61).